# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/W.No.10/AN/CSR-07/091a/CEMENT/2016-17 Date: 15.07.2016

## TEST REPORT ON CEMENT

| | | |
|---|---|---|
| * CUSTOMER | : | **Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| *AGENCY | : | **Mr. Aswathnarayana,** #38, Channappa Layout, Sharadamba Nagara, Jalahalli Village, Bangalore – 13. |
| *NAME OF THE WORK | : | Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.. |
| *REFERENCE | : | AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016 |
| SAMPLE ID | : | Cement |
| SAMPLE RECEIVED ON | : | 13.07.2016 |
| PERIOD OF TESTING | : | 13.07.2016 to 15.07.2016 |

The results of the tests conducted on the cement sample are as follows:

| Sl. No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-2013 |
|---|---|---|---|---|
| 1 | Standard Consistency | IS-4031 (Part -4) 1988(RA-2009) | 29.00 % | - |
| 2 | a) Initial Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 145 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 490 Minutes | Not More than 600 Minutes |
| 3 | Soundness by Le Chartlier Method | IS-4031 (Part-3) 1988(RA-2009) | 1 mm | Not more than 10mm |

*Information is furnished by the Customer/Representative.

Note:

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⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

*********

VISHWANATH. I.A.
Chief Executive Officer

AEE (VRP) SD


#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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T-2377


Job No.: CTCE/BBMP/W.No.10/AN/CSR-07/091a/SAND-Gradation/2016-17 : 15.07.2016

## TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Aswathnarayana,**
#38, Channappa Layout, Sharadamba Nagara, Jalahalli Village, Bangalore – 13.

*** Name of Work** : Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore..

**Reference** : AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016

**Technical Reference** : IS : 2386 Part 1 - 1963 RA-2007

**Sample ID** : Fine Aggregates

**Sample Received on** : 13.07.2016

**Date of Testing** : 15.07.2016

Total Wt. of Aggregates in gms **1000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2007) | | | |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone-III | Zone-IV |
| 10 | 100 | 100 | 100 | 100 | 100 |
| 4.75 | 97.00 | 90-100 | 90-100 | 90-100 | 95-100 |
| 2.36 | 77.80 | 60-95 | 75-100 | 85-100 | 95-100 |
| 1.18 | 54.80 | 30-70 | 55-90 | 75-100 | 90-100 |
| 600 Micron | 27.30 | 15-34 | 35-59 | 60-79 | 80-100 |
| 300 Micron | 15.30 | 5-20 | 8-30 | 12-40 | 15-50 |
| 150 Micron | 6.10 | 0-10 | 0-10 | 0-10 | 0-15 |

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Zone-I specific limits.

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E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.10/AN/CSR-07/091a/AGG/GR/2016-17 : 15.07.2016

## TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Aswathnarayana,**
#38, Channappa Layout, Sharadamba Nagara, Jalahalli Village, Bangalore – 13.

*** Name of Work** : Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore..

**Reference** : AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016

**Technical Reference** : IS : 2386 Part 1 -1963 RA-2007

**Sample ID** : Coarse Aggregates (40mm)

**Sample Received on** : 13.07.2016

**Date of Testing** : 15.07.2016

Total Wt. of Aggregates in gms= **7000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2007) | |
|---|---|---|---|
| | | Graded | Single Sized |
| 80 | 100 | 100 | - |
| 63 | 100 | - | 100 |
| 40 | 97.86 | 95-100 | 85-100 |
| 20 | 40.71 | 30-70 | 0-20 |
| 10 | 14.29 | 10-35 | 0-5 |
| 4.75 | 1.43 | 0-5 | - |

AEE (VRP) SD

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No.10/AN/CSR-07/091a/AGG/GR/2016-17 : 15.07.2016

## TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Aswathnarayana,**
#38, Channappa Layout, Sharadamba Nagara, Jalahalli Village, Bangalore – 13.

*** Name of Work** : Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore..

*** Reference** : AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016

**Technical Reference** : IS : 2386 Part 1 -1963 RA-2007

**Sample ID** : Coarse Aggregates (20mm)

**Sample Received on** : 13.07.2016

**Date of Testing** : 15.07.2016

Total Wt. of Aggregates in gms= **5000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS :383-1970 (RA- 2007) | |
|---|---|---|---|
| | | Graded | Single Sized |
| 40 | 100 | 100 | 100 |
| 20 | 96.30 | 95-100 | 85-100 |
| 10 | 29.30 | 25-55 | 0-20 |
| 4.75 | 5.10 | 0-10 | 0-5 |

AEE (VRP) SD

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Graded specific limits

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E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

# CIVIL-TECH CONSULTANTS AND ENGINEERS

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An ISO 9001:2008 Certified Company

**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED


Job No.: CTCE/BBMP/W.No.10/AN /STEEL/2016-17 18.07.2016

## TEST REPORT ON REINFORCEMENT STEEL

Customer : **Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. Aswathnarayana,** #38, Channappa Layout, Sharadamba Nagara, Jalahalli Village, Bangalore – 13.

Name of the Work : Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016

Date of Test : 18.07.2016

Technical Reference : IS: 1786-2008

AE-10 AEE (VRP) CD

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress $N/mm^2$ | Tensile strength (Ultimate stress) $N/mm^2$ | Elongation percent gauge length | | |
| 1 | 8 | 0.40 | 510 | 552 | 13.15 | O.K | O.K |

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M/s. Civil-Tech Consultants & Engineers
# 23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079.

********


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E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.10/AN /STEEL/2016-17 18.07.2016

## TEST REPORT ON REINFORCEMENT STEEL

Customer : **Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. Aswathnarayana,** #38, Channappa Layout, Sharadamba Nagara, Jalahalli Village, Bangalore – 13.

Name of the Work : Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016

Date of Test : 18.07.2016

Technical Reference : IS: 1786-2008

AEE (VRP) SD

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm$^2$ | Tensile strength (Ultimate stress) N/mm$^2$ | Elongation percent gauge length | | |
| 1 | 10 | 0.62 | 514 | 557 | 13.35 | O.K | O.K |

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Job No.: CTCE/BBMP/W.No.10/AN/CSR-07/091a/CUBE/2016-17 17.08.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Aswathnarayana,**
#38, Channappa Layout, Sharadamba Nagara, Jalahalli Village, Bangalore – 13.

*** Name of the work** : Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore..

*** Reference** : AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016

*** Sample ID** : RCC Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 17.08.2016

AEE (VRP) SD

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 20.07.2016 | 17.08.2016 | 8.189 | 487.3 | 21.66 |
| 2 | 20.07.2016 | 17.08.2016 | 8.267 | 493.6 | 21.94 |
| 3 | 20.07.2016 | 17.08.2016 | 8.325 | 510.2 | 22.68 |

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T-2377


Job No.: CTCE/BBMP/W.No.10/AN/CSR-07/091a/CUBE/2016-17 19.08.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Aswathnarayana,**
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*** Name of the work** : Improvements to Roads, Drains and covering slabs at SMBG House at Chamundeshwari Layout in Ward No.10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore..

*** Reference** : AEE/BBMP/VSD/PR/323/2016-17 Dated: 13.07.2016

*** Sample ID** : RCC Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 19.08.2016

AEE(VRI)SD

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 22.07.2016 | 19.08.2016 | 8.110 | 485.5 | 21.58 |
| 2 | 22.07.2016 | 19.08.2016 | 8.260 | 502.6 | 22.34 |
| 3 | 22.07.2016 | 19.08.2016 | 8.380 | 512.4 | 22.77 |

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